DIM

PURPOSE

Compute a positive difference of two numbers.

DESCRIPTION

The positive difference for two numbers x1 and x2 is the first number minus the minimum of the two numbers. If the smaller number comes first, the positive difference is returned as zero. For example, DIM(14,23) returns a value of 0 while DIM(23,14) returns a value of 9.

SYNTAX

LET <y2> = DIM(<x1>,<x2>) <SUBSET/EXCEPT/FOR qualification>

where <x1> is a variable or parameter;
<x2> is a variable or parameter of the same length as <x1>;
<y2> is a variable or a parameter (depending on what <x1> is) where the computed positive differences are stored;
and where the <SUBSET/EXCEPT/FOR qualification> is optional.

EXAMPLES

LET A = DIM(14,23)
LET A = DIM(23,14))
LET X2 = DIM(X1,X2)

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

ABS = Compute the absolute value of a number.
MOD = Compute the modulo (i.e., the remainder of x/y) of two numbers.
MIN = Compute the minimum of two numbers.
MAX = Compute the maximum of two numbers.

APPLICATIONS

Data transformation

IMPLEMENTATION DATE

Pre-1987

PROGRAM

LET X = SEQUENCE 1 1 9
LET Y1 = X**2
LET Y2 = X**1.5
LET Y3 = DIM(Y1,Y2)
SET WRITE DECIMALS 3; PRINT X Y1 Y2 Y3

The following output is generated.

<table>
<thead>
<tr>
<th>X</th>
<th>Y1</th>
<th>Y2</th>
<th>Y3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
</tr>
<tr>
<td>2.00</td>
<td>4.00</td>
<td>2.828</td>
<td>1.172</td>
</tr>
<tr>
<td>3.00</td>
<td>9.00</td>
<td>5.196</td>
<td>3.804</td>
</tr>
<tr>
<td>4.00</td>
<td>16.00</td>
<td>8.000</td>
<td>8.000</td>
</tr>
<tr>
<td>5.00</td>
<td>25.00</td>
<td>11.180</td>
<td>13.820</td>
</tr>
<tr>
<td>6.00</td>
<td>36.00</td>
<td>14.697</td>
<td>21.303</td>
</tr>
<tr>
<td>7.00</td>
<td>49.00</td>
<td>18.520</td>
<td>30.480</td>
</tr>
<tr>
<td>8.00</td>
<td>64.00</td>
<td>22.627</td>
<td>41.373</td>
</tr>
<tr>
<td>9.00</td>
<td>81.00</td>
<td>27.000</td>
<td>54.000</td>
</tr>
</tbody>
</table>